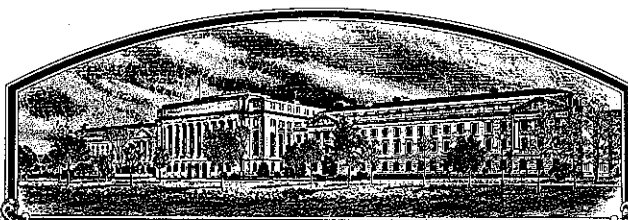


No.

9300196



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Delta and Pine Land Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'DP 3553'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of September in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Marston A. Stanton

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Samuel J. Hittman

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

| | | | |
|--|---|--|--|
| 1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Delta and Pine Land Company | | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. DPX 3553 | 3. VARIETY NAME DP 3553 |
| 4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 100 Main Street Scott, MS 38772 | | 5. PHONE (include area code) (601) 742-3351 | FOR OFFICIAL USE ONLY PVPO NUMBER 9300196 F I L I N G Date April 13, 1993 Time 2:25 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M. F E E S Filing and Examination Fee: \$ 2325.00 Date April 13, 1993 R E C E I V E D Certificate Fee: \$ 300.00 Date August 8, 1995 |
| 6. GENUS AND SPECIES NAME Glycine max | 7. FAMILY NAME (Botanical) Leguminosae | | |
| 8. CROP KIND NAME (Common Name) Soybean | 9. DATE OF DETERMINATION 1988 | | |
| 10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation | | | |
| 11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware | | 12. DATE OF INCORPORATION | |
| 13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Harry Collins P.O. Box 157 Scott, MS 38772 | | | |

PHONE (include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☒ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____

g. ☒ Filing and Examination Fee. (2,325) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)

☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act Give date _____)

☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates)

☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

| | | |
|---|---|----------------------------|
| SIGNATURE OF APPLICANT (Owner(s)) <i>James Edward Shengor</i> <i>Thomas J. W. W. W.</i> | CAPACITY OR TITLE Midsouth Soybean Breeder Coord. of Int'l Research | DATE 4/12/93 4-10-93 |
| SIGNATURE OF APPLICANT (Owner(s)) <i>Harry B. Collins</i> | CAPACITY OR TITLE Vice President Director of Research | DATE 4-9-93 |

EXHIBIT A

DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3553

ORIGIN AND BREEDING HISTORY

- 1985 - Cross number 85033 made, DP 415 X A 5980 at Scott, MS.
- 1986 - F₁ grown in field.
- 1987 - F₂ advanced to F₃ in winter nursery and F₃ plant pulled in Kenly, NC.
- 1988 - F₄ plant row 88-01301 was selected, composited and determined to be stable and breeding true for major characteristics as described in Exhibit C of this application. At this time no variants are known or have been observed.
- 1989 - Entered into Atlantic Coast preliminary tests as 88-01301
- 1990 - Tested in advanced yield tests at several locations
- 1991 - across the Midsouth and Southeast. Seed increase begun in 1991 and off-type plants were removed from seed stocks.
- 1992 - Tested as DPX 3553 in state experiment station tests in Midsouth and Southeast.
- 1993 - Released as DP 3553.

EXHIBIT B

DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3553

NOVELTY STATEMENT

To our knowledge DP 3553 most nearly resembles DP 105, DP 415, P 9591, Terra Vig 5693 and FFR 562.

1. DP 3553 differs from DP 105 in that it is resistant to stem canker whereas DP 105 is susceptible. Also DP 3553 averages 4 days earlier in maturity than DP 105.

Maturity In
Days after August 31

| | |
|---------|----|
| DP 3553 | 32 |
| DP 105 | 36 |
| # Tests | 17 |
| # Reps | 51 |

STEM CANKER

| | Score * | | | Rating ** |
|---------|-------------|-------------|-------------|--------------------------|
| | <u>1990</u> | <u>1991</u> | <u>1992</u> | <u>MS State Univ-'92</u> |
| DP 3553 | 1.3 | 1.0 | 1.0 | R |
| DP 105 | 2.5 | 3.0 | 3.7 | MS-S |
| # Tests | 1 | 1 | 1 | |
| # Reps | 2 | 2 | 3 | |

* Score based on 1 (very resistant) to 5 (very susceptible)

** MS State Univ. Ag. Exp. Sta. Bulletin 236 1992.
"Soybean Variety Trials". p. 55.




2. DP 3553 differs from DP 415 in that it is susceptible to Race 3 Cyst Nematode whereas DP 415 is resistant to Race 3. Also DP 3553 averages 4-6 inches taller than DP 415.
3. DP 3553 differs from P 9591 in that it has imperfect black hila, whereas P 9591 has buff hila.
4. DP 3553 differs from Terra Vig 5693 in that it is resistant to stem canker and Terra Vig 5693 is moderately susceptible - See Mississippi State Ag. Exp. Station Information Bulletin 236, 1992, "Soybean Variety Trials", pp. 55-56. Also DP 3553 averages 3-4 inches taller than Terra Vig 5693.
5. DP 3553 differs from FFR 562 in that it is resistant to frogeye leafspot whereas FFR 562 is susceptible.

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

| | | |
|--|-----------------------------------|---|
| NAME OF APPLICANT(S) Delta and Pine Land Company | TEMPORARY DESIGNATION DPX 3553 | VARIETY NAME DP 3553 |
| ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 100 Main Street Scott, MS 38772 | | FOR OFFICIAL USE ONLY PVPO NUMBER 9300196 |

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

☐ 1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

4

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 31 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 1

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 31 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 1

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 81 = 000
9 = VI2 = 00
10 = VII3 = 0
11 = VIII4 = I
12 = IX5 = II
13 = X

6 = III

7 = IV

8 = V

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐

Race 1

☐

Race 2

☐

Race 3

☐

Race 4

☐

Race 5

☐ 2

Other (Specify)

Resistant - But race is not known☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

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FUNGAL DISEASES: (Continued)

★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)

☐ 0 Purple Seed Stain (*Cercospora kikuchii*)

☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)

Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)

★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 0 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 0 Race 7

☐ 0 Race 8 ☐ 0 Race 9 ☐ 0 Other (Specify) _____

VIRAL DISEASES:

☐ 0 Bud Blight (Tobacco Ringspot Virus)

☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)

★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)

☐ 0 Pod Mottle (Bean Pod Mottle Virus)

★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode (*Heterodera glycines*)

★ ☐ Race 1 ☐ Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 1 Other (Specify) _____ Race 14

☐ 0 Lance Nematode (*Hoplaimus Colombus*)

★ ☐ 1 Southern Root Knot Nematode (*Meloidogyne incognita*)

★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)

☐ 1 Peanut Root Knot Nematode (*Meloidogyne arenaria*)

☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)

☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ ☐ 0 Iron Chlorosis on Calcareous Soil

☐ 1 Other (Specify) _____ Sensitive to high chloride soils

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

☐ 1 Mexican Bean Beetle (*Epilachna varivestis*)

☐ 2 Potato Leaf Hopper (*Empoasca fabae*)

☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

| CHARACTER | NAME OF VARIETY | CHARACTER | NAME OF VARIETY |
|-------------|-----------------|-----------------------|-----------------|
| Plant Shape | DP 105 | Seed Coat Luster | A 5980 |
| Leaf Shape | DP 105 | Seed Size | DP 415 |
| Leaf Color | DP 415 | Seed Shape | DP 415 |
| Leaf Size | DP 105 | Seedling Pigmentation | DP 415 |
| | | | |

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

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| VARIETY | NO. OF DAYS MATURITY | PLANT LODGING SCORE | CM PLANT HEIGHT | LEAFLET SIZE | | SEED CONTENT | | SEED SIZE G/100 SEEDS | NO. SEEDS/POD |
|-----------------------------------|----------------------|---------------------|-----------------|--------------|-----------|--------------|-------|-----------------------|---------------|
| | | | | CM Width | CM Length | % Protein | % Oil | | |
| DP 3553 Submitted | 133 | 2.2 | 84 | — | — | 36.0 | 18.4 | 15.6 | — |
| DP 105 Name of Similar Variety | 137 | 2.1 | 77 | — | — | 35.4 | 18.9 | 13.8 | — |

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT D

DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3553

ADDITIONAL DESCRIPTION OF VARIETY

DPX is an F_3 plant selection composited in the F_4 at Kenly, NC. It is from the cross DP 415 x A 5980 made at Scott, MS. DPX 3553 is a potential replacement or compliment for DP 415 and is being considered for release because of its superior yield performance and taller plant type as compared to DP 415, Hutcheson, A 5403 and other varieties of similar maturity.

DPX 3553 has purple flowers, grey pubescence and tan pods. Seeds are shiny yellow with imperfect black hila averaging 2900 seeds/lb. Hila may vary from buff to imperfect black depending on enviromental conditions. It has averaged 8% greater yield than DP 415 and DP 105 in 36 D&PL tests. DPX 3553 is a mid group V maturity averaging 2 days later, 5 inches taller and slightly more susceptible to lodging than DP 415. Like DP 415, DPX 3553 has shown excellent resistance to stem canker and frog-eye leaf spot. It has shown good tolerance to phytophthora root rot and aerial blight. DPX 3553 is moderately susceptible to cyst nematode, sudden death syndrome and root rot nematode.

EXHIBIT E

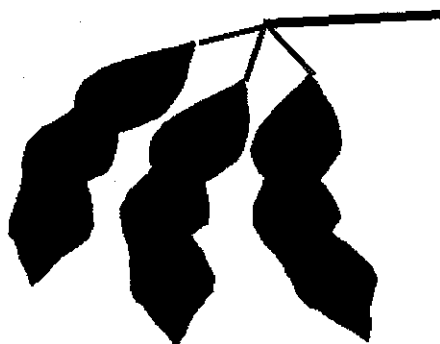
DELTA AND PINE LAND COMPANY'S APPLICATION FOR DP 3553

STATEMENT OF APPLICANT'S OWNERSHIP

DP 3553 was originated and developed by Tom Wofford Ph.D., Harry Collins Ph.D. and Grover Shannon Ph.D., Delta and Pine Land Company Plant Breeders. By agreement between employee and Delta and Pine Land Company, all rights to any invention, discovery, or development made by an employee are assigned to the company. No rights to such an invention or discovery are retained by the employee.

SOYBEAN PRODUCT NOMINATION FORM

Suggested Nominee Number: DPX 3553
Experimental Designations: DPX 3553, DPX 2553, 88-01301
Submitted by: Tom Wofford and Grover Shannon (Project Leaders)
Date Submitted: January 1, 1993
Parentage: DP 415 X A 5980



Data Collected from 36 Replicated Yield Tests.

I. Plant & Seed Characteristics:

| | |
|----------------------|-----------------|
| Flower Color: | Purple |
| Pubescence Color: | Grey |
| Hilum Color: | Imperfect Black |
| Pod Wall Color: | Tan |
| Seed Coat Luster: | Shiny |
| Leaf Shape: | Ovate |
| Plant Type: | Determinate |
| Peroxidase Activity: | Positive |

II. Agronomic Characteristics:

| Line | Mat. | Plant Height | Ldg. | Shat. | Seeds/ Lb. | % Pro. | % Oil |
|---------------------|------|--------------|------|-------|---------------|-----------|----------|
| DPX 3553 Nominee | +2 | 33 | 2.2 | Exc. | 2923 | 36.0 | 18.4 |
| DP 415 Check | 0 | 26 | 1.8 | Exc. | 3411 | 36.1 | 18.5 |
| DP 105 Check | +5 | 30 | 2.1 | Exc. | 3297 | 35.4 | 18.9 |

III. Yield Data:

1990-92 Yield & Agronomic Data Summary

| Line | Yield | % Yield | Mat | Hgt | Ldg |
|----------|-------|---------|-----|-----|-----|
| DPX 3553 | 50.0 | 108 | +2 | 32 | 2.2 |
| DP 105 | 46.6 | 100 | 7 | 30 | 2.1 |
| DP 415 | 46.1 | 100 | 0 | 27 | 1.8 |
| # Tests | 36 | 36 | 17 | 29 | 18 |

1992 Yield & Agronomic Data Summary

| Line | Yield | % Yield | Mat | Hgt | Ldg |
|-----------|-------|---------|-----|-----|-----|
| A 5979 | 53.7 | 116 | +3 | 28 | 2.0 |
| P 9592 | 49.6 | 107 | +8 | 35 | 2.0 |
| Hutcheson | 48.8 | 105 | +4 | 26 | 1.5 |
| DPX 3553 | 47.5 | 103 | +2 | 33 | 2.3 |
| A 5403 | 46.4 | 100 | -1 | 28 | 1.4 |
| DP 415 | 46.3 | 100 | 0 | 28 | 1.9 |
| DP 105 | 45.4 | 98 | +7 | 31 | 2.2 |
| # Tests | 15 | 15 | 6 | 13 | 7 |

1991 Yield & Agronomic Data Summary

| Line | Yield | % Yield | Mat | Hgt | Ldg |
|-----------|-------|---------|-----|-----|-----|
| DPX 3553 | 51.0 | 114 | +1 | 32 | 2.3 |
| P 9592 | 48.7 | 109 | +5 | 31 | 2.1 |
| A 5979 | 48.0 | 107 | +4 | 27 | 1.6 |
| DP 105 | 47.1 | 108 | +3 | 30 | 2.2 |
| A 5403 | 45.4 | 102 | -1 | 25 | 1.3 |
| DP 415 | 44.7 | 100 | 0 | 24 | 2.1 |
| Hutcheson | 44.6 | 99 | +2 | 22 | 1.4 |
| # Tests | 15 | 15 | 7 | 9 | 6 |

1990 Yield & Agronomic Data Summary

| Line | Yield | % Yield | Mat | Hgt | Ldg |
|----------|-------|---------|-----|-----|-----|
| DPX 3553 | 53.3 | 107 | +3 | 33 | 2.1 |
| DP 415 | 49.9 | 100 | 0 | 27 | 1.8 |
| DP 105 | 48.3 | 97 | +5 | 29 | 1.7 |
| # Tests | 7 | 7 | 4 | 7 | 4 |

YIELD SUMMARY IN BU/A

By Region: 1990-92

| Line | Midsouth | | Southeast | | Overall Mean | |
|----------|----------|--------|-----------|---------|--------------|---------|
| | Yield | %Yield | Yield | % Yield | Yield | % Yield |
| DPX 3553 | 52.0 | 111 | 45.7 | 101 | 50.0 | 108 |
| DP 105 | 47.4 | 101 | 45.0 | 99 | 46.6 | 100 |
| DP 415 | 46.8 | 100 | 45.3 | 100 | 46.4 | 100 |
| # Tests | 25 | 25 | 11 | 11 | 36 | 36 |

By States: 1990-92

| Line | TN | AR | MS | LA | NC | SC | VA | Mean |
|----------|------|------|------|------|------|------|------|------|
| DPX 3553 | 53.7 | 52.9 | 52.2 | 47.8 | 45.6 | 42.0 | 50.4 | 50.0 |
| DP 105 | 47.4 | 48.8 | 45.6 | 44.9 | 41.9 | 44.5 | 45.2 | 46.6 |
| DP 415 | 47.5 | 49.2 | 46.3 | 43.0 | 43.4 | 43.1 | 51.2 | 46.4 |
| # Tests | 5 | 7 | 9 | 4 | 5 | 4 | 1 | 36 |

By Soil Type, Planting and Disease Situation: 1990-92

| Line | Loam | Clay | Early Planted | SCN | Stem Canker | Root Knot | SDS | Aerial Blight |
|----------|------|------|---------------|------|-------------|-----------|------|---------------|
| DPX 3553 | 51.4 | 50.7 | 48.9 | 50.2 | 43.6 | 33.4 | 46.7 | 57.4 |
| DP 415 | 49.4 | 44.9 | 38.8 | 46.5 | 29.2 | 32.0 | 50.3 | 55.1 |
| DP 105 | 47.8 | 46.5 | 41.7 | 47.5 | 30.8 | 44.7 | 33.2 | 52.8 |
| # Tests | 17 | 8 | 2 | 5 | 1 | 1 | 1 | 1 |

1990-92 Head to Head Comparisons

| DPX 3553 vs. | Total Comp's | Won by-Bu/A | # Wins | % Wins |
|--------------|--------------|-------------|--------|--------|
| DP 415 | 36 | +3.6 | 27 | 75 |
| DP 105 | 36 | +3.4 | 27 | 75 |
| P 9592 | 29 | +0.1 | 17 | 59 |
| HUTCHESON | 29 | +2.7 | 17 | 59 |
| A 5979 | 29 | -1.5 | 13 | 45 |
| A 5403 | 29 | +2.5 | 19 | 66 |

YIELD IN BU/A
BY TESTS AND LOCATIONS

1992 - 255M, 259A, 257C

| | M I D S O U T H | | | | | | | | | | |
|----------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------------------|
| Line | TN RP | TN UC | AR CD | AR BR | AR DM | MS SE | MS SL | MS SC | LA LP | LA MG | Mid- Sth Mean |
| A 5979 | 53.8 | 52.0 | 65.6 | 59.6 | 49.9 | 56.0 | 55.3 | 40.4 | 38.0 | 54.6 | 52.5 |
| P 9592 | 52.9 | 46.8 | 60.7 | 48.8 | 53.6 | 55.1 | 52.2 | 44.3 | 39.0 | 56.2 | 51.0 |
| DPX 3553 | 58.7 | 46.7 | 56.1 | 54.0 | 48.9 | 53.5 | 52.4 | 44.8 | 33.5 | 57.4 | 50.3 |
| Hutch. | 51.6 | 43.6 | 56.5 | 52.8 | 46.0 | 52.2 | 56.3 | 42.5 | 34.9 | 50.5 | 48.7 |
| A 5403 | 49.5 | 48.6 | 53.4 | 59.6 | 50.8 | 51.4 | 51.6 | 40.4 | 25.3 | 49.6 | 48.0 |
| DP 415 | 49.8 | 50.3 | 58.1 | 49.2 | 43.2 | 48.3 | 52.0 | 41.3 | 31.2 | 55.1 | 47.9 |
| DP 105 | 49.8 | 33.2 | 54.6 | 49.8 | 47.8 | 52.5 | 50.1 | 38.1 | 35.3 | 52.8 | 46.4 |
| LSD .05 | 8.8 | 9.8 | 5.9 | 4.7 | 6.6 | 6.3 | 5.9 | 4.2 | 8.1 | 7.9 | |
| C. V. | 10.1 | 18.1 | 7.8 | 5.4 | 8.3 | 7.2 | 7.0 | 6.4 | 15.3 | 9.6 | |

| | S O U T H E A S T | | | | | | |
|----------|-------------------|----------|----------|----------|----------|----------------------|---------------------|
| Line | VA HL | NC CL | SC HV | SC OR | GA PL | Sth- East Mean | Over All Mean |
| A 5979 | 50.0 | 39.2 | 36.7 | 52.8 | 65.7 | 56.2 | 53.7 |
| P 9592 | 48.8 | 41.6 | 45.1 | 42.4 | 56.5 | 46.7 | 49.6 |
| Hutch. | 50.0 | 39.2 | 36.7 | 52.8 | 65.7 | 48.9 | 48.8 |
| DPX 3553 | 50.0 | 34.5 | 34.0 | 33.4 | 56.4 | 41.7 | 47.4 |
| A 5403 | 54.2 | 33.4 | 28.3 | 41.6 | 58.4 | 43.2 | 46.4 |
| DP 415 | 51.2 | 38.8 | 35.8 | 32.0 | 57.7 | 43.1 | 46.3 |
| DP 105 | 45.2 | 32.6 | 32.7 | 44.7 | 62.2 | 43.5 | 45.4 |
| LSD .05 | 9.0 | 10.1 | 7.5 | 14.6 | 5.4 | | |
| C. V. | 11.3 | 18.5 | 13.7 | 28.0 | 5.7 | | |

1991 - 155M

| | M I D S O U T H | | | | | | | | | | |
|----------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Line | TN RP | TN UC | AR CD | AR WH | AR DM | MS SE | MS SL | MS SC | MS SC | LA LP | LA MG |
| DPX 3553 | 49.6 | 55.2 | 62.6 | 46.8 | 47.2 | 43.6 | 54.0 | 62.0 | 61.1 | 43.7 | 56.6 |
| P 9592 | 42.7 | 50.4 | 66.1 | 44.6 | 51.3 | 36.2 | 48.5 | 60.7 | 59.2 | 42.3 | 50.3 |
| A 5979 | 45.9 | 42.3 | 64.3 | 49.2 | 49.1 | 34.7 | 49.3 | 49.8 | 57.7 | 47.2 | 47.3 |
| DP 105 | 44.6 | 51.0 | 58.8 | 45.2 | 53.9 | 30.8 | 45.3 | 52.6 | 59.4 | 44.1 | 47.3 |
| A 5403 | 48.9 | 52.0 | 62.3 | 52.2 | 47.9 | 30.2 | 46.2 | 46.2 | 57.3 | 30.8 | 40.3 |
| DP 415 | 41.8 | 33.5 | 61.4 | 45.2 | 39.9 | 29.2 | 48.1 | 46.7 | 56.5 | 43.1 | 42.7 |
| Hutch. | 41.8 | 47.8 | 65.7 | 47.0 | 35.9 | 20.8 | 46.0 | 44.0 | 52.2 | 36.0 | 37.5 |
| LSD .05 | 8.4 | 12.8 | 5.1 | 4.6 | 4.4 | 6.8 | 4.4 | 6.1 | 6.3 | 11.1 | 8.7 |
| C. V. | 12.3 | 13.6 | 5.1 | 6.1 | 11.1 | 11.7 | 5.6 | 7.2 | 7.0 | 16.7 | 11.7 |

| | | S O U T H E A S T | | | | |
|----------|---------------------|-------------------|----------|----------|----------------------|---------------------|
| Line | Mid- Sth Mean | NC CL | NC KN | SC HV | Sth- East Mean | Over All Mean |
| DPX 3553 | 52.9 | 41.8 | 45.3 | 44.6 | 43.9 | 51.0 |
| P 9592 | 50.2 | 48.7 | 36.5 | 44.5 | 43.7 | 48.4 |
| A 5979 | 48.8 | 40.0 | 44.1 | 51.5 | 45.2 | 47.8 |
| DP 105 | 48.4 | 43.2 | 38.9 | 44.5 | 43.6 | 47.1 |
| A 5403 | 46.8 | 50.2 | 34.7 | 35.4 | 42.0 | 45.5 |
| DP 415 | 44.3 | 46.7 | 40.0 | 50.1 | 45.0 | 44.5 |
| Hutch. | 43.2 | 53.0 | 45.9 | 47.7 | 45.7 | 43.8 |
| LSD .05 | | 8.0 | 7.7 | 5.4 | | |
| C. V. | | 10.5 | 11.2 | 7.5 | | |

1990 - 058A

| | M I D S O U T H | | | | | S O U T H E A S T | | | | |
|----------|-----------------|----------|----------|----------|---------------------|-------------------|----------|----------|----------------------|---------------------|
| Line | TN RP | AR DM | MS SL | MS SC | Mid- Sth Mean | NC CL | NC KN | SC OS | Sth- East Mean | Over All Mean |
| DPX 3553 | 58.2 | 54.0 | 52.0 | 46.8 | 52.8 | 57.8 | 47.9 | 56.0 | 53.9 | 53.3 |
| DP 415 | 61.8 | 47.1 | 51.2 | 42.9 | 50.8 | 53.7 | 38.1 | 54.6 | 48.8 | 49.9 |
| DP 105 | 58.7 | 45.9 | 40.2 | 42.3 | 46.8 | 50.7 | 44.3 | 56.2 | 50.4 | 48.3 |
| C. V. | 11.4 | 9.9 | 10.0 | 16.3 | | 14.8 | 7.5 | 10.1 | | |
| LSD .05 | 9.7 | 8.4 | 8.2 | 10.5 | | 8.5 | 6.6 | 8.9 | | |

IV. DISEASE REACTION AND OTHER INFORMATION:

Cyst Nematode

DPX 3553 is moderately susceptible to Soybean Cyst Nematode.

| Race 3 | (Score) | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
|----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| DPX 3553 | | 3 | 5 | 3 | 0 | 0 | 0 | 0 | 1 | 6 | |
| DP 105 | | 0 | 0 | 0 | 7 | 3 | 0 | 0 | 0 | 6 | |
| Forrest | | 7 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 0 | |
| Bedford | | 7 | 2 | 0 | 0 | 0 | - | - | - | - | |

Location: Scott, Gnhse Jackson, TN
1/7/91 2/12/91

Conducted by: Grover Shannon & Dr. L. Young
Grady Robinson USDA Nematologist

| Race 14 | (Score) | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
|----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| DPX 3553 | | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 6 |
| DP 105 | | 0 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 7 | 3 | - | - | - | - | - |
| Forrest | | 0 | 0 | 2 | 3 | 5 | 0 | 0 | 3 | 6 | 1 | 0 | 0 | 0 | 0 | 7 |
| Bedford | | 1 | 3 | 3 | 2 | 0 | 0 | 2 | 4 | 3 | 0 | 5 | 1 | 0 | 0 | 0 |

Location: Scott, Gnhse Scott, Gnhse Jackson, TN
2/1/90 1/9/91 3/6/91

Conducted by: Grover Shannon & Dr. L. Young
Grady Robinson USDA Nematologist

Root Knot Nematode 1 = No galling 5 = Very severe galling
DP 3553 is susceptible to Root Knot Nematode.

| | Common Root Knot <u>M. incognita</u> | | | Peanut Root Knot <u>M. arenaria</u> |
|----------|---|-------------------------|-------------------------|--|
| | <u>1990¹</u> | <u>1991²</u> | <u>1992³</u> | <u>1990²</u> |
| DPX 3553 | 4.5 | 0.0 | 2.0 | 5.0 |
| DP 415 | 3.8 | 3.0 | 1.0 | 4.0 |
| DP 105 | 4.0 | 1.0 | 1.0 | 0.0 |

Location: Hattiesburg, MS¹ Jay, FL² Orangeburg, SC³
Conducted by: Grover Shannon & Grady Robinson Dr. Robert Kinloch Dr. Cindy Green
Nematologists & Chris Daniels
Univ. of Florida

Stem Canker 1 = No symptoms 5 = Very severe symptoms
DPX 3553 is resistant to Stem Canker.

| | <u>1990¹</u> | <u>1991¹</u> | <u>1991²</u> |
|-----------|-------------------------|-------------------------|-------------------------|
| DPX 3553 | 1.3 | 1.0 | 1.0 |
| DP 415 | 1.8 | 1.5 | 1.0 |
| DP 105 | 2.5 | 3.0 | 3.7 |
| Hutcheson | 1.5 | 1.5 | 1.0 |
| A 5979 | - | 2.5 | 2.3 |
| A 5403 | 1.0 | 1.0 | 1.0 |

Location: Scott, MS Hill Plots¹ and Scott Loam²
Conducted by: Grover Shannon & Grady Robinson

Frogeye Leaf Spot 1 = None 5 = Very Severe
DPX 3553 is resistant to Frogeye Leaf Spot.

| | <u>1991</u> |
|----------|-------------|
| DPX 3553 | 1.0 |
| DP 415 | 1.3 |
| DP 105 | 1.7 |
| A 5403 | 2.7 |

Location: Morganza, LA
Conducted by: Grover Shannon & Grady Robinson

Sudden Death Syndrome 1 = None 5 = Very severe

DPX 3553 is moderately susceptible to Sudden Death Syndrome.

1992

| | |
|-----------|-----|
| DPX 3553 | 1.8 |
| DP 415 | 2.2 |
| DP 105 | 3.2 |
| Hutcheson | 2.7 |
| A 5403 | 2.8 |

Location: Union City, TN

Conducted by: Grover Shannon

Aerial Blight 1 = None 5 = Very severe

DPX 3553 is moderately resistant to Aerial Blight.

1992

| | |
|-----------|-----|
| DPX 3553 | 2.0 |
| DP 415 | 2.0 |
| DP 105 | 3.0 |
| Hutcheson | 3.3 |
| P 9592 | 2.0 |

Location: Morganza, LA

Conducted by: Grover Shannon

Herbicide Tolerance

DPX 3553 has no known sensitivity to herbicides commonly used on Midsouth soybeans.

Chloride Tolerance

DPX 3553 is sensitive to high chloride.

Seed Stock

There are 123 bushels of foundation DPX 3553 and 200 lbs. of breeder seed.



ariety Description

DPX 3553

DPX 3553 is an F₄ plant selection composited in the F₅ at Kenly, NC. It is from the cross DP 415 X A 5980 made at Scott, MS. DPX 3553 is a potential replacement or compliment for DP 415 and is being considered for release because of its superior yield performance and taller plant type as compared to DP 415, Hutcheson, A 5403 and other varieties of similar maturity.

DPX 3553 has purple flowers, grey pubescence and tan pods. Seeds are shiny yellow with imperfect black hila averaging 2900 seeds/lb. Hila may vary from buff to imperfect black depending on environmental conditions. It has averaged 8% greater yield than DP 415 and DP 105 in 36 D&PL tests. DPX 3553 is a mid group V maturity averaging 2 days later, 5 inches taller and slightly more susceptible to lodging than DP 415. Like DP 415, DPX 3553 has shown excellent resistance to stem canker and frogeye leaf spot. It has shown good tolerance to phytophthora root rot and aerial blight. DPX 3553 is moderately susceptible to cyst nematode, sudden death syndrome and root knot nematode. There may be up to 1 in 2000 off-type plants with white flowers and/or tawny pubescence.

KEY FEATURES

- Excellent yield potential, especially in Midsouth
- 1 - 2 days later than DP 415
- 5 inches taller than DP 415 for better growth on tough soils
- Field resistance to Phytophthora and aerial blight
- Excellent stem canker and frogeye resistance
- Moderately susceptible to cyst nematode
- Susceptible to root knot nematode
- Large, attractive seed of excellent quality
- Slightly more lodging susceptibility than DP 415

CHARACTERISTICS

| | |
|---------------------------|---------------------------|
| Maturity | Mid Group V |
| Flower Color | Purple |
| Pubescence Color | Grey |
| Hilum Color | Imperfect Black |
| Lodging Resistance | Good |
| Shatter Resistance | Excellent |
| Seed Size | Large - 2700-2900 Seed/lb |
| Stem Canker | Resistant |
| Phytophthora Root Rot | Field Tolerant |
| Cyst Nematode | Moderately Susceptible |
| Common Root Knot Nematode | Susceptible |
| Peanut Root Knot Nematode | Susceptible |
| Red Crown Rot | Unknown |
| Aerial Blight | Moderately Resistant |
| Sudden Death Syndrome | Moderately Susceptible |
| High Chloride | Sensitive |